Winter 1970
Volume 3, Number 1

ROTUNDA the bulletin of The Royal Ontario Museum

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The Cover:

Four-year-old Cicely Holford in a Victorian centre-part (see page 8)

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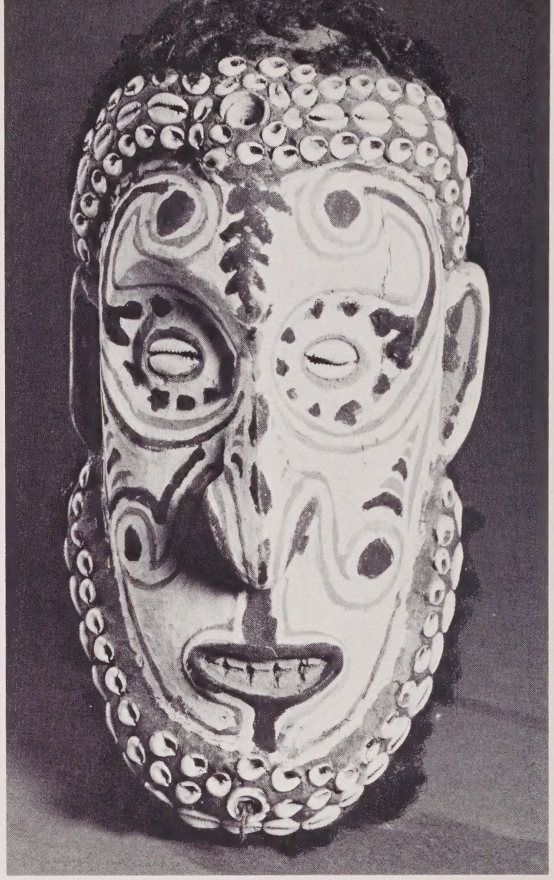
Spotlight with the Editor

Past, present and future at the ROM



NEW GUINEA COLLECTION

"This is the most exciting new collection to be acquired by the Museum in many years" is how ROM Director Peter Swann has described almost 400 primitive art objects from New Guinea. They were purchased from Peter Austin, a geologist who for six years was in the Australian Trust Territory of Northeast New Guinea, working and visiting remote villages. The collection mostly is from the Sepik and Maprik areas. It includes masks and images associated with the Yam and Tamberan Cults,

Head ornament (top right) from middle Sepik River area is among almost 400 objects in recently acquired New Guinea collection

Many faces of New Guinea pottery. New collection also includes memorial boards, shields, weapons, bark paintings, ancestral figures

suspension hooks in the form of human effigies, bark painted with mythological representations, carved gourd containers, bone daggers, carved and painted shields, memorial boards, spears, canoe prows, drums, shell jewelry and polychrome pots with anthropomorphic faces. Added to items already owned by the Ethnology Department, it gives the ROM one of the most representative New Guinea collections in North America. The public will have a chance to see this unique collection during a New Guinea Art exhibition at the ROM in November.

POTTERY FROM ANCIENT GREECE

Another important recent acquisition is a lidded clay vase and two terracotta statuettes from ancient Greece. They were purchased for the Greek and Roman Department by *The Group of 100 Trust Fund*. The clay vase is of a type found in Attic graves of the Early Iron Age of Greece, about 750 B.C. Its workmanship and excellent state of preservation are rare. The statuette of a seated woman is from 470-460 B.C. and is about 10⅓ inches tall. The second figure, that of a standing woman, is probably from about 400 B.C., measures 13⅛ inches tall and is one of the best existing examples of its type.

ISLAMIC GALLERY

The Islamic Gallery is the latest public display area to be renovated at the ROM and the result is the feeling of being inside a Middle Eastern building. Subdued lighting and rich colours enhance the exhibits of pottery, porcelain, miniature paintings, manuscripts of the Koran and other rare Islamic objects. Above the hand-tiled arch leading into the new gallery is an inscription in Arabic meaning, "In the name of God, the beneficent, the merciful."

THE ORIGINS OF CHINTZ

Opening April 8 at the ROM is a most unusual exhibition, *The Origins of Chintz*. Chintz comes from the ancient Indian word, "chitta", meaning spotted cloth. First produced in India, chintz meant to 17th and 18th century Europe

Group of 100 Trust Fund purchase. Three excellent examples of art of ancient Greece

fine Indian cottons with exotic hand-painted patterns, dyed in fast colours. Because the demand for it threatened local textile industries, importing of chintz was banned in France from 1686 to 1759 and in England from 1700 to 1774.

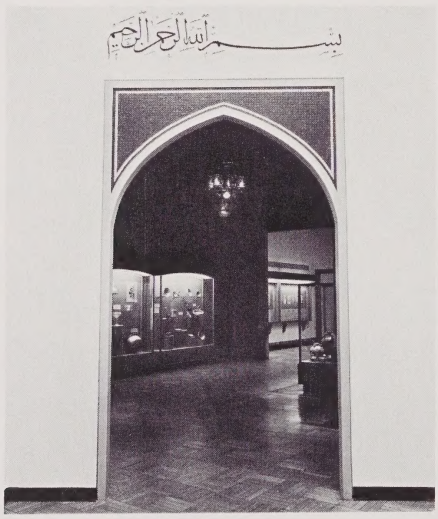
One hundred examples of rare chintz will be in the exhibition, the largest of its type since a 1927 exhibition at the Metropolitan Museum in New York. Half the pieces come from the ROM's own chintz collection (the most important in North America), 40 from London's Victoria and Albert Museum and ten from other museums. Mrs. K. B. Brett, Associate Curator of the ROM's Textiles Department, is responsible for the exhibition. She also is co-author, with John Irwin of the Victoria and Albert Museum, of a lavish, definitive book, *The Origins of Chintz,* to be available at the time of the exhibition.

PLANETARIUM ANNIVERSARY

The McLaughlin Planetarium celebrated its first birthday in November and statistics for its initial 12 months could, pardonably, be described as astronomical. A total of 404,826 people visited the white-domed building: 248,285 of them to see the public shows; 99,252 to attend the special school shows; and the others just to wander through the splendid astronomical displays. Six different public shows, plus three different school shows, were produced during the first year. The ROM's McLaughlin Planetarium, described by one person as a "magic mushroom", is firmly planted as one of Toronto's major attractions.

MUSEUM TRAINING

Six young women are enrolled at the ROM in the only post-graduate course of its type in Canada. When they successfully complete the 15-month course, they will receive from the University of Toronto the degree, *Master of Museology*. This is the first year for the course and the six women (accepted from among 15 applicants) have a very full programme. They must take two graduate courses at the University. In addition they receive lectures from ROM curatorial and other staff on the collections and other major aspects of Museum activities. They also take practical courses in the laboratories and workshops of the ROM; and visit other museums, commercial art galleries and auctions. This master's degree course is intended to help fill the desperate need of many Canadian museums and art galleries for qualified staff.



Arched entrance sets mood for ROM's new Islamic Gallery

Katharine B. Brett, Associate Curator, Textiles Department, with one of the chintz samples for the exhibition she is organizing

Eighteenth century man's morning coat made of chintz. It is among 100 items in the Origins of Chintz *exhibition, opening April 8*

Recent Publications

Paul Kane (1810-1871) has long been known as the foremost pictorial historian of the Canadian Indian. Although Kane's oils are deservedly well-known, his field sketches have only recently been publicised (ROTUNDA, Winter, 1969). Now Charles J. Musson Limited has published an exact replica of the small sketch book carried by Kane on his first trip from Toronto to Sault Ste Marie in 1845. The sketches are most interesting in their spontaneity and in the accuracy with which Kane portrayed Ojibwa, Ottawa, Saugeen, Menomini and Potawatomi fishing, canoeing, and at domestic chores, in their villages and at the annual treaty gatherings. (PAUL KANE'S SKETCH PAD, Charles J. Musson Limited, cloth, $9.95)

Nancy S. Ossenberg, Assistant Professor in the Department of Anatomy, University of Alberta, Edmonton, has written *Osteology of the Miller Site*, a study of the human bones found during the excavation near Oshawa of the Indian village described in W. A. Kenyon's *The Miller Site* (1968). *Altun Ha, British Honduras (Belize): The Sun God's Tomb*, by D. M. Pendergast, describes the 1968 discovery of a very rich tomb in the structure dubbed the Temple of the Masonry Altars, a tomb containing the magnificent jade head of Kinich Ahau, the Maya Sun God. (OSTEOLOGY OF THE MILLER SITE, ROM Art and Archaeology Occasional Paper 18, paperbound, $3.50; ALTUN HA, BRITISH HONDURAS (BELIZE): THE SUN GOD'S TOMB, ROM Art and Archaeology Occasional Paper 19, paperbound, $3.00)

Observations on the Biology of Rodents in Uruguay, by Jon C. Barlow, Curator of the ROM Department of Ornithology, deals with aspects of the biology of 16 species of rodents, among them the nutria, guinea pig, tuco-tuco and capybara, collected in Uruguay December 1962-May 1963 by members of an American Museum of Natural History expedition. The moult patterns of several species are recorded. (OBSERVATIONS ON THE BIOLOGY OF RODENTS IN URUGUAY, ROM Life Sciences Contribution 75, paperbound, $2.50)

A new Life Sciences Occasional Paper describes the experiments of J. R. Tamsitt (Associate Curator, ROM Department of Mammalogy) and Dario Valdivieso (Seneca College) with electrophoresis of the hemoglobin of bats. (HEMOGLOBIN ELECTROPHORESIS IN THE SYSTEMATICS OF BATS (MICROCHIROPTERA), ROM Life Sciences Occasional Paper 14, 50¢)

The vivid full-colour ROM Chart, *Naskapi Indians,* is enjoying a brisk demand. Two more ROM Charts illustrating aspects of North American Indian life are now available. *Musical Instruments* shows rattles, clappers, flutes and drums from the ROM Ethnology collections. *Wood Cree* illustrates some tools, and the intricate curvilinear and floral designs worked in quills and moosehair and later in trade beads on tump-lines, fire-bags and clothing. Both charts have captions in English, French and Cree Syllabics, and both are accompanied by a sheet of background information by E. S. Rogers, Curator of the ROM Ethnology Department. (ROM Chart MUSICAL INSTRUMENTS, ROM Chart WOOD CREE, 32″ x 39″, folded in mailing envelope 9″ x 12″, $3.00 each)

Off-the-shoulder dress of white cotton was worn in Ontario in the late 1830s or early 1840s. Gift of Miss E. B. Bastedo

Children's clothing often reflects facets of styles worn by adults. In 19th century Canada, this meant that little girls sometimes wore leg-of-mutton sleeves or even bustles. For boys, it sometimes meant knickerbockers, Norfolk jackets and bowler hats.

The survival rate of children's clothing of the 19th century is not as high as that of women's clothing. Items were often handed down to be used by more than one child, or made over and finally discarded when no longer usable. The clothes that were saved were usually "best" outfits. Those in the ROM collections are mainly American, English and Canadian, most dating from the 1840s to the present.

In the first part of the 19th century when the waistline on women's dresses was placed higher than normal, even the baby dresses reflect this style. Then, like that of their elders, the waist dropped little by little to the natural position of the 1830s.

As the child grew older the fashion influence in its clothes was increasingly noticeable. One example may be seen in the teenager's dress of the late 1820s (page 9). It has all the characteristics of a woman's dress on a smaller scale. The little taffeta dress (page 14) of the early 1870s, worn by an eight or ten year old, with its fashionable bustle and fringe trimming, is another example. Later, in the

The loose 1860s jacket buttoned only at the throat, worn by small boys and for informal men's wear. Photo taken at Whitby, Ontario

Little Women, Little Men

19th century children's clothing in Canada

Katharine B. Brett

Associate Curator, Textiles Department

1890s, quite little girls wore leg-of-mutton sleeves (page 11). In some instances only the length distinguishes a child's dress from what might be a miniature grown-up dress. The same may be said of boys' clothing which followed to some extent the general trends of men's wear.

Until the 1870s children's dresses were made with a straight bodice and a full skirt gathered to it. The material and trimming reflected the fashions of the day. The "best" dresses had open necklines, sometimes dropping over the shoulder, and very short sleeves.

Many articles on child care in contemporary journals warned against the evils of open necks and short sleeves, but to little avail. They were worn in all seasons and there were no little cardigans or pullovers in those days. The usual cover-up in the first part of the century was a spencer jacket or a little shoulder cape with matching long sleeves which buttoned inside it. Small capes were fashionable in the 1840s, for both children and grownups. In the 1850s and 1860s little matching jackets were worn, especially by boys (page 7).

Practical everyday dresses, which were simply cut and not affected by fashion, varied little from decade to decade. Usually made of printed cotton, fine wool or homespun, they had a closer neck-line and elbow-length sleeves. The printed dress at right and the handwoven linen dress on page 15 are typical examples. In the 1870s children's dresses were often cut on princess lines, a style which was then in fashion. It is a characteristic of dresses of both the 1870s and 1880s. Any indication of a waistline was usually low over the hips. Girls' dresses of the 1890s, in contrast to previous decades, had high yokes, and were worn with or without a wide sash around the waist. Necks were high and sleeves long in both the 1880s and 1890s. Throughout the period pinafores were worn over dresses for play.

Little boys up to the age of six or seven wore dresses. These were pleated rather than gathered to the bodice. When boys were "breeched" at the age of six or seven, they began wearing long trousers like their fathers'. An innovation of the 1860s for both men and boys were knickerbockers, later called knee

Striped cotton dress was worn by a teenager during the late 1820s in Kingston or Picton. Gift of Miss H. M. Armour

Everyday printed cotton dress typical of the 1850s. Worn in Lincoln County, Ontario. Gift of Mr. Norman Macdonald

A small boy in Simcoe County wore this checked wool dress about 1850. Gift of Mr. Brazil H. Hamilton

A small boy's striped silk dress of the 1850s has matching jacket. Worn in Kingston or Picton, Ontario. Gift of Miss H. M. Armour

Boy's cotton drawers (left), worn mid-19th century in Kingston or Picton. Gift of Miss H. M. Armour

Girl's cotton petticoat (centre), worn in Ontario 1855-60. Gift of Miss Helen P. LeVesconte

Linen pantalettes (right), trimmed with knitted lace. Gift of Miss E. B. Bastedo

Boy's velvet knickerbocker suit, worn in Peterborough, Ontario during the mid 1860s

Fashion plate used about 1860 by a dressmaker in Peterborough and Cobourg

High-necked dress with a yoke and long, leg-of-mutton sleeves distinguish girl's blue and peach silk dress worn in Ontario in the mid 1890s.
Gift of Miss Audrey McLaren

The Scottish revival inspired this kilt suit for boys. Worn in the late 1850s or early 1860s in Kingston or Picton, Ontario.
Gift of Miss H. M. Armour

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pants for boys. Knickerbocker legs were either loose or more often gathered to a band which buttoned or buckled just below the knee. They remained a feature of boys' clothing until the second quarter of the twentieth century.

Jackets of the first part of the century were fitted and followed the lines of men's styles. In the 1860s a loose jacket came in which buttoned only at the throat and resembled jackets worn by small boys in the 1840s and 1850s. It had in fact also come in for informal men's wear. In the 1870s boys' jackets were belted and Norfolk jackets were also worn. In the following two decades closely buttoned and unbelted jackets came in. All were worn to the end of the century and later.

Kilt suits, inspired in England by the Scottish revival and Prince Albert's enthusiasm for Balmoral, were worn by small boys from the 1860s on, and so were sailor suits. The fashion for sailor suits was popular throughout the remainder of the century and into the twentieth. Middy blouses, sailor hats and reefer coats with a nautical air were worn by girls and they continued to wear middy blouses as school or gym uniforms into the present century. Another late 19th and early 20th century fashion for small boys was the Little Lord Fauntleroy suit. It was made of black velvet, had knickerbocker legs and a white shirt with a broad frilled collar and was inspired by the costume worn by the hero of the book of the same name. This and the Eton suit were "best" wear.

Children's underwear also resembled that worn by grown ups—a chemise or shirt covered by stays or corsets (depending on the age of the little girl), drawers and petticoats. Petticoats increased in number as skirts expanded in the 1840s and when crinoline frames came in, in the 1850s, they too were sometimes worn by young girls. Flannel vests and petticoats were recommended for winter wear.

A feature of 19th century children's underwear was the drawers with frills around the legs which showed beneath the skirts of both small girls and boys. They are sometimes

Page from Eaton's Catalogue, Toronto. Fall and winter 1886-87. Courtesy of the T. Eaton Co. Ltd.

Princess-line dress of tape lace over pink satin. Worn at a Toronto wedding in 1884. Gift of Mrs. Walter F. Gouinlock

called trousers or pantaloons and buttoned around the waist to the stays worn by little girls. Boys' were made with tops. In the first part of the century very little of them showed because skirts were long. As children's skirts shortened more of the drawers showed but in the 1840s they too shortened and by the 1860s and 1870s they showed less and less. Pantalettes with lace or embroidered edges were also worn. They buttoned to the drawers.

Pelisses (a coat that buttoned or hooked to the waist or all the way down the front and often looked like a dress) were worn outdoors by little girls in the early part of the century, and cloaks and capes from the late 1830s to the 1860s, when coats came into fashion. Coats followed the lines of the dresses, flaring out over the full skirts of the sixties and having a suggestion of a bustle in the seventies and eighties. In the 1890s coats had wide cape collars. Boys wore coats which followed the lines of men's wear. Both boys and girls wore heavy woollen coats in winter, rather like a capote with woollen sash and sometimes an attached hood.

Children's clothes did not always mirror the fashions of the day. There were instances when they heralded in new styles. One nineteenth century example is the small hat worn by girls in the 1850s. Before that date their bonnets were miniatures of those worn by women. Bonnets continued to be worn by women in the 1850s but by the 1860s they had adopted hats for informal wear that were almost exactly the same shape as those worn by small girls in the previous decade. Cotton sunbonnets for summer and woollen hoods and large scarves called 'clouds' for winter were standard everyday wear.

Small round hats and a wide range of caps with soft round or square crowns and with or without peaked brims were worn by boys. Older boys sometimes wore high hats with Eton suits and, in the 1880s and 1890s, bowler hats. Woolly tuques were general wear for winter.

Boots and shoes had been obtainable ready made since the beginning of the century but only with great difficulty because shipments were few and far between and the demand always exceeded the supply. William Jarvis writing to his father-in-law in 1793 begs him to ". . . send us nothing but shoes for Mrs. Jarvis and my Boke. I this day paid a dollar for a pair of inferior Red Morocco for my daughter Augusta, she is quite barefoot . . ." It was a great event when a cobbler set up in a town or village. Small children's shoes and slippers for the household could be made at home. Many

Boy's eyelet embroidered cotton dress, worn in Toronto during the 1860s. Gift of Miss Lucile M. H. Hoskins

Blue taffeta dress with bustle and fringe was worn near Guelph, in the early 1870s. Gift of Mrs. F. R. Griffin

people resorted to moccasins which were much cheaper and both practical and comfortable in rough weather.

Most children's clothes were made at home until the second half of the nineteenth century. By the time Eaton's published their first catalogue in 1884 quite a selection could be bought ready made. Children's boots "in great variety," slippers, gloves and mitts, stockings, underwear, dresses, boys' jersey suits and girls' jersey dresses, capes and coats were among the clothing listed in the fall catalogue of that year. By 1895 the list had more than doubled and included pinafores, sailor suits and kilt suits. Socks and stockings, though sometimes obtainable ready made, were generally hand-knitted until late in the century.

The sewing found in children's clothes, and particularly baby clothes, is among the finest done during a century celebrated for fine sewing. By the 1870s the sewing machine was in general use but baby clothes, particularly christening dresses, were often made by hand up to the end of the century.

Opportunities to acquire children's clothes for the Museum are few and far between. Through the kind efforts of many Museum friends, the Textiles Department has a growing collection.

Typical everyday dress is made of patterned linen with wool braid. Worn in Montreal during the 1860s. Gift of Miss Jean Robertson

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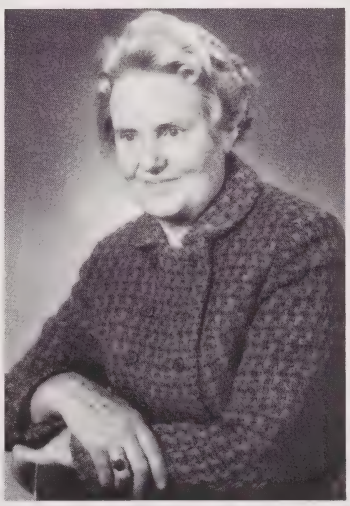
Katharine B. Brett, author of "Little Women, Little Men" and a graduate of the Ontario College of Art, was an exhibiting artist until joining the ROM in 1938. On her return in 1945 from overseas service as Principal Welfare Officer North West Europe, Canadian Red Cross, she joined the Textiles Department and was appointed Curator in 1950. In 1968 she resigned the curatorship to become Associate Curator. In recent months she has been associated with the publication *Haute Couture* (ROM) with the Fashion Group Inc. of Toronto, and co-author of *A Shopper's View of Canada's Past* (U. of T. Press) with G. de T. Glazebrook and Judith McErvel, and of *The Origins of Chintz* (HMSO, London) with John Irwin of the Victoria and Albert Museum.



The Great Saskatchewan Mouse Mine

A 15 million-year old sand deposit reveals the tiny animals that lived in Western Canada during the Miocene epoch

Loris S. Russell
Chief Biologist, ROM

The Great Saskatchewan Mouse Mine—John Storer and Grace Russell pore over minuscule specimens

Bigness is one of the fascinating things about prehistoric animals. Nearly every school boy knows about the dinosaur *Brontosaurus,* which was more than 65 feet long. That was back about 135 million years, but there were other giant dinosaurs, right down to their extinction about 63 million years ago. That there were also tiny dinosaurs is not so well known. After the dinosaurs disappeared the mammals took over, and by about 35 million years ago there were rhinoceros-like mammals that we call titanotheres which were almost as big as an elephant. Even as late as 15 million years ago, in what is known as the Miocene epoch, there were mammals of impressive size: four-tusked mastodons, hippopotamus-like rhinoceroses, and giant camels. The horses, still with three toes on each foot, were about the size of a pony. Dogs larger than any living today preyed on the plant-eating mammals.

Gravels and sands deposited in the latter part of the Miocene epoch are widespread in south-central Saskatchewan, especially on the Wood Mountain plateau and on the uplands farther east. Ever since bones and teeth were discovered in these deposits by C. M. Sternberg in 1929, they have been examined repeatedly by collectors from the Royal Ontario Museum, the National Museum of Canada, and the Saskatchewan Museum of Natural History.

The best hunting ground for fossils has been the artificial gravel pits and road cuts. These have become bigger and more numerous as roads were improved and modern highways built. Soon after Saskatchewan Highway No. 2 was paved, in 1955, Dr. Wann Langston and I were travelling west of Rockglen, when we discovered the fabulously rich localities that became known as Yost Farm and Quantock. These large road cuts for several years yielded a marvellous cross-section of the life of this area in late Miocene time. Along with the very common three-toed horse and other medium-sized to large animals, we found for the first time in any number the relics of the smaller animals, such as squirrels, mice, beavers, rabbits, weasels and shrews.

In 1964 a group from the ROM visited the Rockglen area but found that the Yost Farm and Quantock road cuts had become badly overgrown with weeds. Neither careful searching nor systematic sampling and washing produced much of interest. So a search was made for new road cuts, and these were found at the north rim of the plateau due south of Wood Mountain Park. At the "Four Corners"

Sand and gravel deposits in which were found tiny scraps of bone—the richest deposit of small Tertiary mammals in North America

site, horse teeth were again the commonest fossils, but the teeth and horn cores of small antelope were also conspicuous.

It had long been my plan to study and publish on the combined Wood Mountain collection in the three museums, as part of a series of reports on the fossil mammals of Saskatchewan. However, Dr. Gordon Edmund, Curator of Vertebrate Palaeontology at the ROM, has in recent years assembled an enormous collection of excellent fossils from the Cypress Hills Formation, which dates from early Oligocene time, about 20 million years older than the Wood Mountain gravels. My report on the Cypress Hills fauna had been largely written, but it was obvious that it would have to be greatly revised and expanded. So the study of the Wood Mountain fauna seemed to be postponed for years. However, in 1966 John E. Storer, a graduate of Amherst College, came to the University of Toronto to do research on fossil mammals for his Ph.D. thesis. He welcomed the opportunity to study the Wood Mountain specimens in the three collections, and if possible, to obtain additional specimens in the field.

Accordingly, a restudy of the Wood Mountain Formation was one of the projects for

Proprietor of the Mouse Mine, John Kleinfelder and some of his family—Rockglen, Saskatchewan

Lower molar tooth of a rabbit, glued to the end of a pin

which support was obtained in 1967 from the National Research Council. Early in July Mrs. Russell, John Storer, and I went to Rockglen, hoping to locate the fossil-rich layers at the Yost Farm cutbank, and to exploit these by excavating and sifting. In this we had only meagre results. But Lawrence Yost, on whose farm the exposure is located, and who is an amateur fossil collector himself, suggested that we should look at the sand pit of his neighbour, Mr. John Kleinfelder.

The Kleinfelder farm is located on a very picturesque site, the north rim of the plateau that extends west from Rockglen, and which is an outlier of the Wood Mountain upland. Standing on the plateau edge, behind the farm buildings, one sees on the right in the valley the village of Rockglen with its bright orange grain elevators, nestled in front of a group of buttes and mesas. To the left the plateau surface stretches off to the horizon. In front is a charming, partly wooded valley, in which Mr. Kleinfelder has set up a picnic ground for the benefit of his family and his neighbours.

The sand pit was a small excavation at the neck of a promontory that juts north from the farmyard. The sand deposit was about seven feet thick at its deepest, and could be seen, along the adjacent road, to rest on the pale grey clay of the Ravenscrag Formation (Paleocene). Here and there in the sand were irregular layers of gravel. There was no sprinkling of bone scraps on the talus, but as we peered closely at the sand face we could see tiny scraps of bone mingled with the quartz grains. Here and there we recognized the characteristic curved incisor teeth of small rodents. Out came the sieve we carried for sampling and the plastic plates and magnifiers, and in a few minutes we realized that we had struck a bonanza. We had, in fact, come upon the richest deposit of *small* Tertiary mammals so far found in North America.

It is not hard in Saskatchewan and many other parts of western North America to find bones and teeth of the large and the medium-sized mammals of the Tertiary period. But good sources for the fossils of rodents and other small mammals are rare. For many years the best-known way to collect these was to sift through the ant hills built on fossil beds. Among the tiny pebbles piled up by the ant engineers would be little teeth and bones. One palaeontologist, a specialist on fossil rodents, has over the years been bitten so many times by ants that he has developed an allergy to their poison. These fossil-collecting ants do not seem to come up into Western Canada, and we have had to find our small fossils by crawling over the exposures with eyes a few inches from the surface. In recent years a new technique has been introduced, that of disintegrating and washing the fossil-bearing matrix in water, then sifting the residue. The Saskatchewan Museum of Natural History used a dry-sifting technique on the Cypress Hills sands with some success. But here at the Kleinfelder farm was a deposit so rich that the teeth could be picked out of the sand without washing or sifting.

Mr. Kleinfelder came down to the sand pit to see what the visitors were up to, and found us so intently pouring over our little trays of sand that his natural question, "Are you finding something?" startled us like guilty school children caught in the act. He was most interested in our discovery, and explained that the sand pit was a source of surface material for his road down into the valley, but that he also planned to cut a sunken passageway through with a bulldozer so that his cattle could go

from farmyard to lower pasture. Our little digging wouldn't bother him a bit.

Mr. Kleinfelder came to Canada as a boy from a German-speaking area that was part of Hungary before the first World War, but which found itself in Yugoslavia after the Treaty of Versailles. With hard work and ingenuity he has created a comfortable home for his wife and his six fine children. Mrs. Kleinfelder is of Danish origin, and her quiet common sense and efficiency in household management have been a happy complement to her husband's enthusiasm and restless energy. For three summers now the Kleinfelders have welcomed the bone hunters from Toronto. In 1968 we set up our house trailer on the edge of their garden and had our mid-day meals with them at their bountiful table. No scientific expedition ever had more hospitable treatment from the owners of the property on which they were operating. Like members of the family we went along on visits to relatives and neighbours, and rejoiced or sorrowed with them as crop prospects rose or fell.

Every plate-full of sand that we scrutinized seemed to have a tooth or a jaw fragment of some new little animal. Here was the molar of a primitive squirrel whose ancestry goes back to much earlier times. Next might be the jaw fragment of a peculiar, mouse-like rodent that

Fragment of the palate of an early relative of the jumping mouse, showing the premolar and first molar teeth. Width of the specimen is approximately ¼ inch

also occurred in western Europe. Then there would be the tooth of a kind of pocket-gopher. Strangest were the oval molars of a distant relative of the beaver, in which wear had reduced the tooth pattern to a group of tiny "lakes". Rabbit teeth, not much different from those of the modern cottontail, were common, but rarer prizes were the teeth of weasel-like carnivores and shrew-like insectivores.

Finding the little fossils proved easier if the sand were screened in advance, to get rid of the larger pebbles, and especially the fine dust that obscured the tooth-sized particles. So I designed a rotary sieve, which we made in two models, one with coarse mesh and one with fine. They were cylinders of screen, with a central axle mounted on a sloping wooden frame and turned by hand with a crank. Sand thrown in the upper end, near the handle, was gently sifted as it worked its way down the rotating cylinder. The coarse fraction emerged at the lower end into a trough and so into a bag, while the finer grains fell through and were caught on a canvas sheet. These grains were, in turn, put through the finer sieve, producing a fine fraction of sand, and a pile of dust that could be discarded.

Towards the end of the field season we began finding larger bones in the gravel at the bottom of the sand. One of these was the first vertebra of a mastodon. So we hired a neighbour with a "front-end loader" to strip off most of the sand from an area near where we found the bones. Then with shovels we carefully dug down to the gravel. All we found was one water-worn rib fragment. Nevertheless, we shipped back to the ROM about 500 pounds of coarse and fine sifted sand. It took most of the winter to pick this over, with the aid of a microscope, and to glue the tiny fossils we found to the heads of steel pins driven into corks. This permitted examining or photographing the specimens without handling them directly.

We went back to the Kleinfelder farm in 1968 with a 26-foot trailer for living quarters and set up in the farm yard. We made changes in the sifting equipment so that both screens could be operated at the same time. We sampled various layers and found what spots and what kind of sand yielded the greatest number of teeth. We shipped only about 300 pounds of sifted sand that year, having spent part of our time exploring westward along the Wood Mountain upland, and finding several new localities for larger fossils in the gravel.

One day while we were sorting fossils in the trailer, Leonard Kleinfelder, with his younger brother Lorne and a friend, came to us with an object about the size of a rugby football. "Is this anything?" he asked. It really was something, a nearly complete skull with most of the teeth of the three-toed horse *Merychippus* ("deer-horse"). They had found it while digging at random in the sand at a spot in the bank which we had found too poor in small fossils to be worth screening. This fortunate discovery showed that good specimens of the larger mammals might be found at any level in the sand or gravel.

When the specimens from the 1968 sifting were picked out and mounted, we had something like 1,500 identifiable teeth or jaw fragments, and had barely made a nick in the deposit. But John Storer had as much material as he could hope to identify and describe for his Ph.D. thesis, so when we went back to Saskatchewan in 1969 we had no plans for additional work at the Kleinfelder Farm locality. However, a visit to the Kleinfelders was a must. We were surprised to find that the sand pit was much enlarged. The excellence of this "sharp" sand for concrete aggregate had become widely known, and friends were coming to help themselves, Mr. Kleinfelder being too good-natured to say "no". The basement of the new hotel in Rockglen was made from concrete incorporating this sand, and probably has hundreds of little teeth imbedded in its walls. But riches were still present, as a morning of demonstration sifting quickly showed.

The newest danger was the proposal by the Municipality to purchase the sand and gravel for road surfacing. Mr. Kleinfelder was troubled, because he realized that the scientific treasures would be lost forever. Obviously something had to be done; the fossil deposit soon would not be there if we postponed

Upper molar tooth of a rabbit, seen from below; the bright spot on the left side is the end of the pin to which the tooth is glued

further work. To my offer to purchase a two-year lease on excavation rights, Mr. Kleinfelder responded with enthusiasm. As to the Municipality's requirements, there was gravel on the hillside to the east that would be just as good, and which contained few fossils. So the exploitation of this fantastic accumulation of tiny fossils is now the privilege and responsibility of the Royal Ontario Museum. Next summer a large-scale assault must be mounted, with a crew of men to dig, and motor-driven rotary screens to speed up the sifting of the sand.

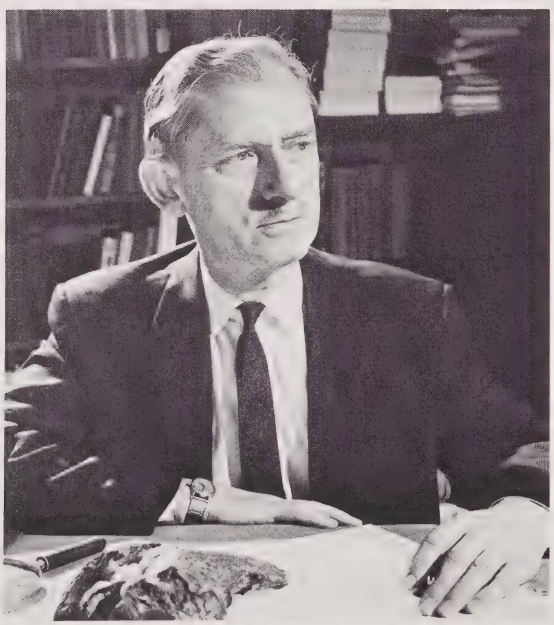
If these plans mature, there will be accumulated at the ROM several thousand pounds of sand concentrate teeming with the teeth and bones of tiny mammals. It may take years to pick over this accumulation, but at least it will be preserved and not forever lost on a road surface or in concrete. Perhaps some of it will be traded off "as is" to other museums, whose staff can share in finding these tiny treasures. Besides, there is the almost certain bonus of larger fossils, such as horse, rhinoceros, or camel skulls, or even the four-tusked mastodon, bones of which have been found in the sand pit and in the excavation that Mr. Kleinfelder made to connect his well to the water system of his house.

The mammals that lived in western North America towards the close of Miocene time are interesting for several reasons. They represent the beginnings of the faunas that lived in this region during the Ice Age and down to modern times. The horse *Merychippus* still had two small extra toes on each foot, but on the basis of its proportions and especially its tooth structure it was the first true horse. There were antelope not far from the ancestry of the modern prong-horn, and camels that were forerunners of the llamas, and perhaps the modern camels of Asia and Africa. The land connection across what is now the Bering Strait was once more in existence, and animals formerly con-

fined to one side or the other were intermingling. Among those from Asia were large, short-legged rhinoceroses, like hippopotamuses in appearance and probably in habits. First representatives of the elephant tribe appeared in North America at this time, the four-tusked mastodon. All of these facts had been pretty well established without the aid of the Wood Mountain fossils. But now the little mammals, so important in any living fauna but so poorly known as fossils, will be revealed in detail for the first time. The Kleinfelder Farm sand is like an ore body to be mined and concentrated; the refined product will be thousands of specimens to give a glimpse into the life of the past that will be unique in its detail and its scope.

Lower molar tooth of a primitive squirrel, mounted on the end of a pin

Photos by the author



Dr. Loris S. Russell has ranged Western Canada, British Columbia, Quebec, and the states of Wyoming, Montana and Colorado in search of fossil remains. Dr. Russell was born in Brooklyn, New York and moved to Calgary with his parents at an early age. In 1937 he was appointed Assistant Professor of Palaeontology at the University of Toronto and Assistant Director of the Royal Ontario Museum of Palaeontology. In 1950 he became Chief Zoologist at the National Museum in Ottawa, and later Director of the Natural History Branch and Acting Director of the Human History Branch at that Museum. He returned to the ROM in 1963 and is now Chief Biologist. Dr. Russell is also an enthusiastic scholar of Canadian social history. Readers will remember "Adventures in Old-Time Lighting" (ROTUNDA, Winter, 1969), which recounted Dr. Russell's pursuit of Canadian lamps of the late 18th and early 19th centuries.

The Growing Collections

On exhibition in the Far Eastern Department's newly refurbished Indian Gallery are two recently acquired heads of the 10th-11th century Chandella Kingdom in Central India. The grey limestone head on the right, a celestial beauty with high ornamented coiffure and large bangle earrings, comes from Khajurahao—the group of temples famous for a linear style of sculpture making extraordinary use of body movements to create a sense of space in architectural reliefs, and for highly erotic compositions symbolizing the creative forces of the universe. Quieter but with a similar nervous strength in its delineations is the buff sandstone head of Śiva, the cosmic saviour. Probably from the region of Allahabad, its blunter execution reflects its origin further from the centre of Chandella domination.

Through the efforts of the Director, a collection of Victorian and Edwardian jewelry is being formed to fill a serious gap in the Museum's collections. In the near future, a changing display of such jewelry will be shown in the Costume Gallery. Shown here are earrings of gold set with turquoise and pearls (English, 1830s) and a snake bracelet of gold links pavé set with turquoise and diamonds (English, about 1840). Queen Victoria wore a snake bracelet on the occasion of her coronation in 1838, and the motif had varying popularity throughout her reign. A necklace and earrings set of gold filagree, turquoise and diamonds (English, 1840s), like so much jewelry of the time, can be taken apart to form two bracelets and a pendant.

An 85-pound specimen of native copper, from Victoria Island, N.W.T., has been donated to the Department of Geology by P. E. Boylen, President of Grandroy Mines Limited.
The most notable recent acquisitions by the Department of Mineralogy were a large colourless topaz, a golden topaz and a large euclase crystal on matrix, all from Brazil.

The charming Canadian primitive scene shown here, in oil on canvas, was acquired by the Canadiana Department at Sotheby's auction, October, 1969. It is signed Lizzie Conrad, and dated August 11, 1888, Waterloo, Ontario.

A fine trilobite slab from Oklahoma has been purchased by the Department of Invertebrate Palaeontology.
The foot-wide slab is crowded with more than 50 individuals of *Homotelus bromidensis,* who lived in the middle of the Ordovician Period, about 450,000,000 years ago. Trilobites are exclusively marine arthropods. Although they flourished for hundreds of millions of years during the Palaeozoic Era, they seldom are preserved as complete individuals and it is exceedingly rare to find a group of complete individuals. The two prominent protuberances on many specimens are the eyes, indicating that the trilobites are mostly in their life position crawling on the sea floor. However, a few are on their back, suggesting that the whole trilobite community was engulfed by a sudden submarine mud slide which flipped a few before burying them.

The Greek and Roman Department has increased its collection of ancient pottery by a large, completely preserved amphora of Italo-Corinthian style of the end of the 7th century B.C. In the quality of its drawing and workmanship, its decoration approaches the products of contemporary Corinthian vase painting. Besides a number of purely decorative patterns the amphora shows two elaborate animal friezes with a profusion of creatures both ordinary and mythical. The amphora ranks high among the extremely small number of preserved examples of this size (height 66.5 cm.) and quality, and is in fact matched in its decorative scheme, shape and dimensions by only one or two examples in the Louvre.

Another addition is a very fine Roman jug of red-slipped ware with applied decoration from North Africa (Tunisia), dating from A.D. 220-250. The applied motifs show a *venator* flinging a wild beast over his shoulder and, on the other side, a small hare running. A victor's crown above the motifs suggests the jug to have been a souvenir to commemorate a *venator's* victory in the arena.

The upper part of a statue, recently purchased in Toronto, is a notable addition to our ancient Egyptian statuary. The position of the head and shoulders and the stylized folds on the lower part of the chest show that the figure represented its ancient owner in the conventional pose of a seated scribe. The two principal names of Amenophis II (1450-1423 B.C.) incised on the right shoulder indicate that he was a Royal Scribe under that king, an inference that is supported by the style of the piece. The name of the Royal Scribe is likely to remain unknown, unless the inscribed base of the statue is found and identified with this important fragment. Black granite; height of fragment 8¼″; height of head (chin to crown) 4¼″.

Among the most interested visitors were sisters of the Congregation of Notre Dame, the order which had lived on the Ile des Soeurs until 1958

The Le Ber compound from the west; the out-building to the left, the courtyard wall between buildings, and the Le Ber house foundations to the right

For the twentieth time since 6 a.m. that morning, the pump started reluctantly, primed itself, and with a grunge and belch began lifting water from the twentieth two-metre square on Nun's Island. By mid-August, pumping out after every hard rain had become routine, just one of the problems of coping with an urban historic site that had been substantially disturbed by modern development.

Ile des Soeurs, or Nuns Island, lies in the St. Lawrence off Montreal. During the French regime it was originally three seigneuries, lately a footing for the Champlain Bridge, and now the object of a 15-year, 50-million-dollar residential and commercial development complex. We were there to discover what we could of the Manoir Le Ber, a stone country house built by Jacques Le Ber between 1665 and 1670, with a compound of barns and outbuildings. The foundations of this house still lay in the ground, beginning about 100 feet north of the bridge, against the east shore of the island.

Ile des Soeurs has been occupied since 1664, following grants of a third of the island each to Jacques Le Ber, Claude Robutel de St. André, and Jean de la Vigne. Le Ber had acquired the la Vigne grant by 1668, and completed construction of his own house and farm complex before 1676.

The Le Ber compound in 1676 was described as including a thick-walled stone house, 24 by 50 French feet, a stone stable, a 30 by 74 foot wooden barn, as well as a courtyard, orchard, and gardens. By 1693 a more recent 20 by 35 foot building was described as a bakery and tenant-farmer's quarters.

Excavations – Nuns Island

Donald B. Webster
Curator, Canadiana Department

A mixture of blasting rubble and dredged harbour silt had been dumped and graded three feet deep over the site in 1964. ROM *preparator Clyde Elder guides the bulldozer peeling away the fill to about four inches above the original surface, before the digging grid can be laid out. In the background, the St. Lawrence and the Champlain Bridge*

A fire in 1693 destroyed much of the compound, including part of the house. This was rebuilt almost immediately, with stone bastions added to two opposing corners as fortification against possible Indian raids. In 1694 Le Ber added a 30 by 100 foot stone barn, located under the present eastern approach of the Champlain Bridge.

The Congrégation de Notre Dame acquired the Robutel third of the island in 1707, and in 1769 purchased the Le Ber lands. The nuns repaired and used the Le Ber buildings until 1788, when they demolished at least the house. The stone was then used in constructing the centre section of a large new residence on the west shore, completed in 1790, with wings added in the early 19th century.

The Congrégation left the island in 1958, and in 1965 sold it to a private land holding company. (The Champlain Bridge had been built in the interim, between 1959 and 1962.) The present developers, Metropolitan Structures of Canada, then leased the island in 1966. The huge and grand 1790 residence, the only early building still standing on the island in the 20th century, stood abandoned until it burned one night in 1961, apparently through vandalism.

At first we had great difficulty in locating any early site on the island, buildings of either Le Ber or Robutel, simply because of the changes made and earth shifted, first by the Congrégation, then the bridge builders, then the new owners, and finally by Metropolitan Structures. No one knew for sure what had been done by others. We could only be confident that if the remains of either of the two early habitations had survived excavation or grading, and still existed, then we would probably be dealing with overfill.

Recent (1966-68) aerial photographs indicated nothing. In a concentrated ground search in late March, six people spent two days combing every inch of the area which even vaguely conformed to early descriptions of building locations—completely in vain. We were at a dead end, in spite of knowing that at least one prime 17th century site was almost certainly still there intact—somewhere. The foundations of the Le Ber compound, we were assured, had been visible on the surface when the Congrégation left the island, but no one seemed to know exactly where.

A search for early aerial photos—another trip to Montreal. On to a photogrammetry company which does the entire city annually. Rolls of old negatives from cellar dead storage—eyestrain—prints—and finally success. On aerial photographs of May, 1959, there were the foundation remains of three buildings of the Le Ber compound—directly in the path and slightly north of growing embankments

for the Champlain Bridge. We had walked over the foundations, on a thin layer of recent fill, several times. Plotting from the photograph to a recent map established that two buildings and a long wall were clear of the bridge, but under two to three feet of blast-rubble and harbour-silt fill the owners had dumped in 1964—if the area had not been scraped earlier. We were assured it had not been.

The rest was logistics and procedure—the confirmation to John R. Lee, University of Windsor, who was to be staff archaeologist for the summer, and to ten student diggers from the Universities of Montreal, Windsor, and Toronto, all of whom had been waiting for word. Gathering equipment, making housing arrangements, solidifying finances, all the usual preliminary detail, was taken care of by June 1.

With Clyde Elder of the ROM Preparators Department, driving one truck, and I another (we looked like a *Grapes of Wrath* migration), we were off for Montreal on the 10th, to meet Jack Lee and his students a few days later. Clyde stayed on to supervise the initial machine work.

On June 12 the developers gave us a back-hoe, with which we started an exploratory trench running in (west) from the shoreline, about where we hoped the Manoir Le Ber foundations would be. Within half an hour of trenching, and examination of every bucket-load that came out, we came up against an

On the courtyard wall—hot sun and hard picking

early lime-mortared stone wall. From scoops of earth appeared numbers of sherds of green-glazed earthenware pottery, one sherd of blue-on-white faience, a bit of thin window glass, a segment of early white clay pipestem, and oddly, one common straight pin with a wire-wrapped head, an archaeological rarety. (We ultimately were to find over 200.) The site at long last confirmed on the ground, I uncrossed my fingers for the first time in months, and with the assembled multitude retired to a pub.

The next day the developers provided us with a D-8 Caterpillar bulldozer. Using as a base the original surface indicated in the trench, while we kept a constant elevation check with a transit, the bulldozer began peeling fill from the entire site in three-inch bites. By June 15 over two feet of overburden had been cleared, to a level four to six inches above the Le Ber foundation walls.

On Monday, June 16th, the full crew arrived, including four Quebec and six Ontario students (two of the latter bilingual). Though the overall operation was directed in English, the daily working language was largely French, a system that worked without difficulty or apparent resentment. One result of the summer was certainly a better dual language facility on all sides.

We began laying out the house site in a grid of two-metre squares to be dug, separated by one-metre balks. The ground was so compacted from years of filling and grading that economical digging was essential. With this system we could both keep a precise record of stratification, and retrieve the most information quickly with the least effort.

The dig proceeded routinely, square by square—hot sun, blast rubble and hard clay—hard picking and large boulders—rainwater. Every digger was issued a heavy pick; in extending the grid pattern we often could not pound wooden stakes into the ground, and used 12-inch nails instead; tools broke continually; two light garden-type wheelbarrows were write-offs within ten days. The diggers rarely grumbled, but we began hitting the pits in the early morning and breaking for the day in mid-afternoon.

Aerial view of the completed dig from the north, with the Le Ber house foundation and its corner bastion toward the bridge, and the outbuilding in the foreground. The trash pit (filled with water) is to the right of the compound

Heavy rains drained into completed squares or excavations, and toward the end of the season periodically formed Lac Le Ber

But it was all worth it—even to the diggers, who are getting field-work credits from their various universities. The foundation walls of the Le Ber house emerged gradually, some 30 inches thick and standing 15 inches above the base clay floors of the finished squares. Like all early Quebec houses, the Le Ber house had shallow foundations, with the cellar actually a high crawl-space and the first floor perhaps three feet above the outside surface level. The foundations were built against the walls of an excavation, not in trenches, of which there was no sign. Indians, too, had camped on the island; just outside the walls on the river side we discovered a carbon-lens firepit, with broken pottery apparently of the Middle Woodland period, far pre-dating the house. Some of this was probably destroyed in the cellar excavation of the 1660s.

At the north end of the house was the footing of one of probably two fireplaces, of unusually well laid natural stone, flanked on the left by the base of a bake oven. Across the house, in about its original centre, was a stone wall constructed quite differently from the exterior walls. This cross-wall we know was added by the nuns during the tenure of the Congrégation de Notre Dame. Along the insides of the outer walls were flat stones with even spacing, apparently bases for props inserted to support floor beams above.

On the northwest corner of the house was one of the two bastions added in 1693—more shallowly based than the house walls, and without a square corner or wall of constant thickness in it—apparently built by-guess-or-by-God, and by a non-mason.

The south end of the house, including fireplace and southeast bastion, was missing—the side walls of the house simply terminated abruptly. Obviously the area directly adjacent to the bridge had, in fact, been graded off in 1959 or 1960.

The interior of the house was full of artifact material, with heaviest concentration toward the fireplace end. From this area came green-glazed and brown-glazed pottery, much of it partly reconstructable. Hundreds of carpenter and shingle nails, clasp and kitchen knife

blades, a flint striker, cabinet hinges and door latches, an axe, a saw, and an adze were among the iron objects which had survived rather well. A few glass trade beads, sherds of faience and delft pottery, Chinese export porcelain, musket balls and French yellow gunflints, bottle glass, pewter buttons and spoon fragments, made up much of the artifact balance. Perhaps the prime single finds within the house were a silver darning needle, with scratched initials CF, a small French copper coin, clearly dated 1657, and a copper wire safety pin—as well as the 200-plus straight pins of several different age-types.

Though at first we thought we might be dealing with fire-rubble of 1693, neither the artifacts nor the conditions support this. Rather the Le Ber house crawl-space seems to have been a dumping ground for a century of secondary trash—objects which fell through cracks in the floor above (i.e., pins) and the remains of sweepings and cleanings.

Some 50 feet west of the house was a trash pit, discovered by a backhoe trench, and then excavated in August. From this came faience pottery, green and brown glazed pottery, and late 17th-early 18th century bottle glass. There was not enough, however, to explain the hundred years of occupation. Instead, we could only conclude that the primary and certainly most logical dumping ground was the river. The original shoreline, however, has been extended some 50 feet with overfill, and is 27 feet thick from present surface to waterline. We will never dig that.

North from the main house extended the base of the courtyard wall, which was never an enclosed court but rather a single wall parallel with the river. Then terminating the wall were the foundations of a stone outbuilding, evidently the bakery and tenant-farmers' quarters. This building, however, can be identified only from its historically documented dimensions. It is a good example both of the limitations of archaeology, which alone often cannot provide nearly the full answer to questions of the past, and perhaps of the historian's tactical advantage over the prehistorian in often being able to combine and compare physical evidence with detailed written documentation.

The outbuilding, with the exception of a few sherds of green-glazed pottery near the surface, was quite devoid of artifacts, almost as if it had rarely or never been occupied or used, or had been previously excavated (of which there was no evidence).

The huge stone barn which Le Ber built in 1694 was located directly on an open space under the Champlain Bridge. Remains are perhaps yet still there, under asphalt paving, but the fact of grading out as far as the Le Ber house leads us to doubt it.

Few domestic sites of the French regime have ever been excavated and reported in this country, and even fewer have previously been explored either of the 17th century or in Quebec. Yet dozens of sites exist, some domestic, some connected with the French fur trade, and some ecclesiastical buildings.

The Le Ber site was neither the most nor the least important of available sites—it was simply a start in an historic period which, except for Louisbourg, had not been scratched; the site was clear, but it also was imminently threatened by development. This last is the most important factor.

Unfortunately many important North American historic archaeological sites are in urban or urbanized areas, areas where the very face of the land, to say nothing of the structural complex on it, is changing rapidly and the pace of change accelerating. Like the Le Ber compound, many valuable sites have already been disturbed, and many more have been destroyed without prior examination and leaving no trace.

The Le Ber compound was well worth doing —foundation remnants still existed beyond our fondest initial hopes. Artifact recoveries were substantial—perhaps not what they might have been had overfilling not occurred—but still more than adequate to put together a picture of the early domestic environment and material culture. Nevertheless, the Le Ber site should have been dug ten years ago—had there been anyone to do it.

This is the picture of much historical archaeology in Canada—we assume difficult condi-

tions, including predisturbance, and we accept that half a loaf is better than none. It would be nice to enjoy the luxury of programmed digging, with open choice of subject area and complete site selectivity, but it will never happen. We are accumulating a file of documented and available sites much more rapidly than we could possibly dig them. Our own ideas of excavation programs or priorities of historical importance cannot weigh very heavily in our actual selection; endangered sites get first attention, and safe sites rest.

The Le Ber site report will be completed before the 1970 digging season begins, and the publication, in both English and French, will be the ROM's first bilingual report. We will keep some artifacts—probably only those needed to document the report—with half going to the Quebec Ministry of Cultural Affairs, which supported the excavations by a grant supplementing ROM funds. Others will go to the Congrégation de Notre Dame in Montreal and to the Historic Sites Branch, Indian Affairs and Northern Development, in Ottawa, and perhaps to other museums in Quebec.

With the full dig crew and others as the guests of Metropolitan Structures, the season ended with the first dinner held in the Le Ber house in two and a half centuries—lobster and Chablis

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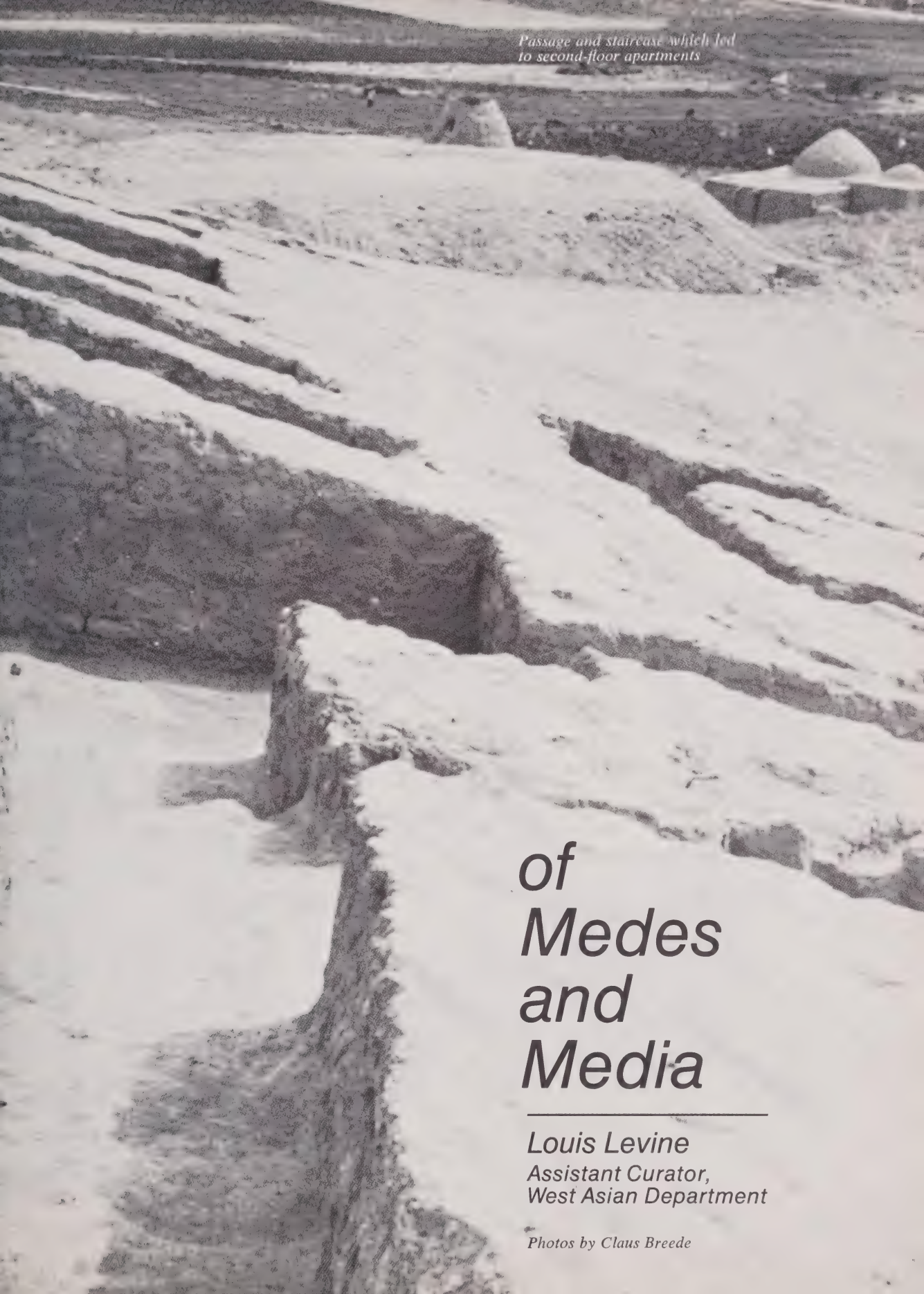
The Canadiana Department archaeological program began with the Brantford Pottery project in 1966-67, and seven excavations, including the Nuns Island site, have since been completed. Donald B. Webster, appointed Curator of the Canadiana Department in 1966, has a B.A. from the University of Maine and his M.A. in history and economics from the University of Rhode Island. He has written extensively on military and technological history, and more recently on Canadian ceramics. He has a special interest in 17th and 18th century colonial Canada, and particularly its economic and technological history.



Passage and staircase which led to second-floor apartments

# of Medes and Media

Louis Levine

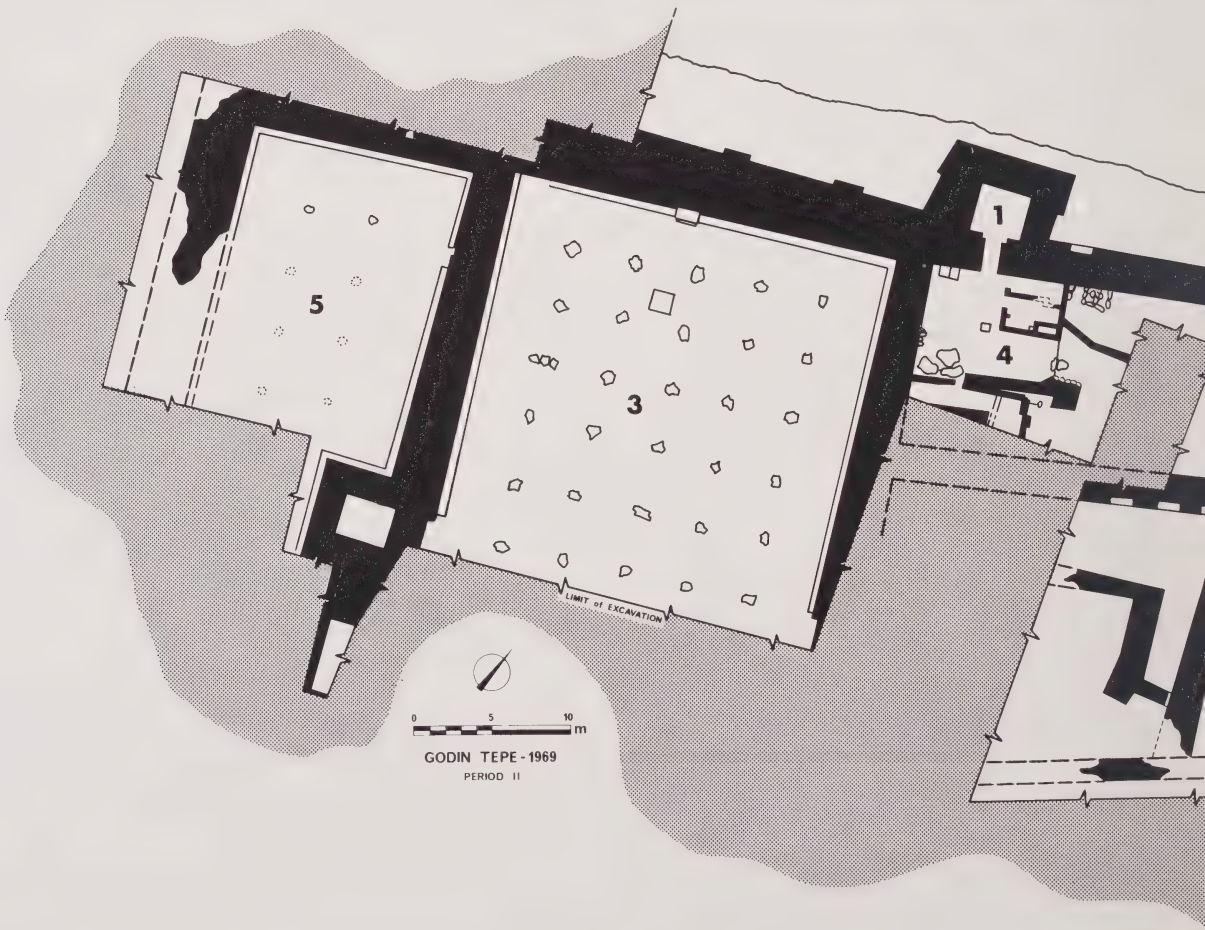
Assistant Curator, West Asian Department

Photos by Claus Breede

In the year 712 B.C., Sargon II, "the great king, the mighty king, king of Assyria" began construction on his new capital, Dur Sharrukin, "the city of Sargon." Assyria was at the height of her power. From a centre in northern Iraq, near the modern city of Mosul, Assyrian sway extended over all of Babylonia to the south, as far as the borders of Egypt to the west, and into the mountains of Iran and Turkey on the east and north. It was not without reason that Sargon proclaimed himself "king of the universe."

When Sargon decided to build a new capital, he chose a site not far from the great city of Niniveh. There he erected a palace, a temple area, and quarters for those who were to live in the city and minister to its needs. It was to the palace itself, however, that special attention

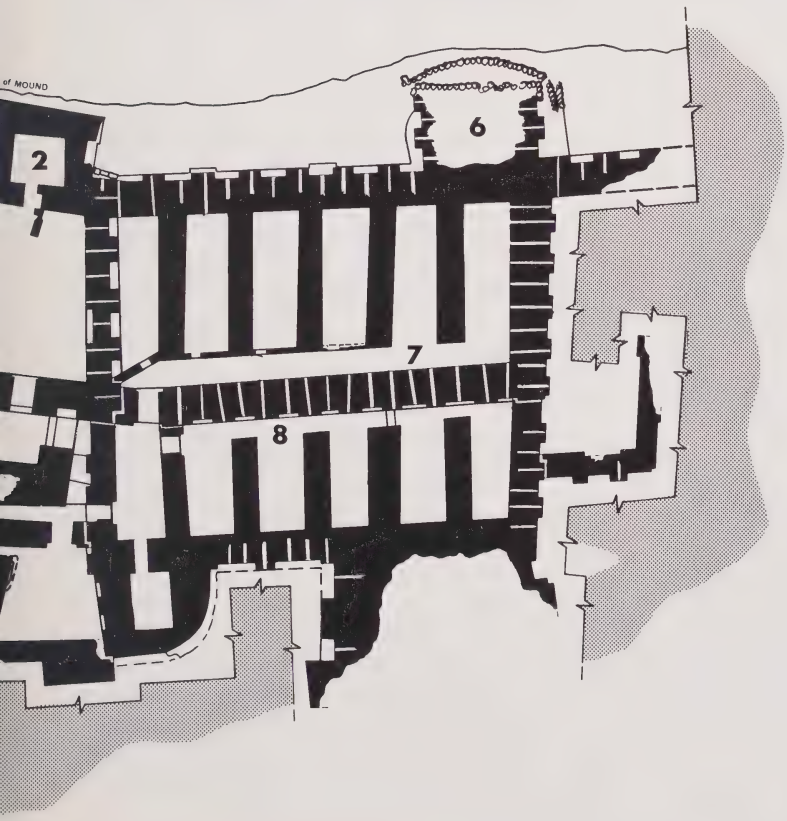
The fortification of Godin Tepe perched atop its mound



was paid. A grand layout was submitted by the architect and approved by the king. To add to the splendour of the building, the walls were adorned with inscriptions, relating to various campaigns and conquests of the king, supplemented by a series of reliefs depicting the subjects of the inscriptions.

These reliefs and inscriptions reveal that one of Sargon's principal concerns was with the groups settled in the Zagros mountains to the east of Assyria. These groups, which included both the Medes and Persians, had long been a source of trouble to the Assyrian empire. In the reign of Shalmaneser III, an Assyrian king who lived some 150 years before Sargon, a series of campaigns had been launched with an eye to controlling the mountain folk settled in the Zagros. Shalmaneser, however, was unable to permanently subjugate the eastern territories, and his successors enjoyed no better success. Thus, it fell to Sargon's lot to accomplish the task, which he set about with the vigour and ruthlessness characteristic of the kings of Assyria. However, even his efforts were to prove ephemeral, and only 100 years later, the Medes were to spearhead the attack that would see the final fall of the Assyrian empire.

With the eastern provinces playing such a large role in the history of Assyria, and with the Medes occupying a central role among the groups of this area, it is surprising how little was known about this group until very recently. There were references to the Medes in the annals of the Assyrian kings, a few allusions in



Plan of Godin Tepe fortifications. 1 and 2, defensive towers; 3, large columned hall; 4, kitchen area—all excavated in 1967; 5, smaller columned hall; 6, defensive tower; 7 and 8, corridors connecting storerooms, and 9, staircase to former upper storey, excavated in 1969 (Plan—Claus Breede)

Corridor running past the north bank of magazines

the Bible, and a short account of Median history by Herodotus in the first book of *The Persian Wars*. In addition, there were the pictorial representations of cities and campaigns in the east, some perhaps in Media, on the reliefs lining the palaces of Assyrian kings. Yet first-hand information from Media proper, in the form of archaeological excavations, was totally absent.

It is against this background of archaeological void that the Royal Ontario Museum decided to mount an expedition to Media in the summer of 1965. T. Cuyler Young, Jr. kindly invited me to join him and together we surveyed over 100 sites, hoping to select a likely candidate for excavation. It was decided finally to excavate at the mound of Godin Tepe, which lies on the major east-west route that traverses Media. The first season, concerned with gaining a complete picture of the history of the mound, yielded little information about the Median level. However, in the summer of 1967, a far more extensive campaign revealed what we thought was a small, if nevertheless imposing structure from the Median period. (A full report of these two seasons' work has now been published by Dr. Young, *Excavations at Godin Tepe: First Progress Report*, and an article describing our work was published in ROTUNDA, Spring, 1968.)

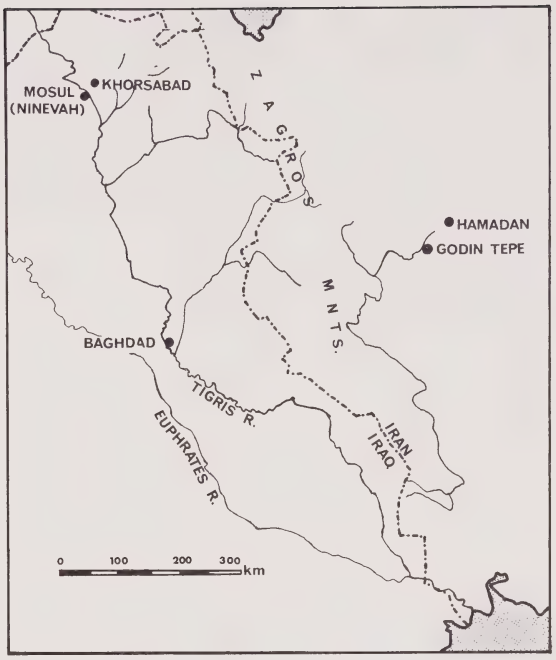
Alas, archaeology is not a profession for proud men. More often than not it is the most humbling of academic pursuits, and early surmises are often in need of much revision or outright rejection. Such, indeed, proved to be the case during the third campaign of excavations at Godin, which took place during the summer of 1969. Cuyler Young was again director, and I served as assistant director. We were most fortunate to have with us once again Chris and Carol Hamlin and Irene Winter, who had been with us in 1967, as well as Bill and Frances Sumner, Harvey Weiss, Curtiss Hoffman, Claus Breede and Murray Hadaway, who were with us for the first time. All of these, plus the Sumner children made up one of the most competent and surely the most harmon-

ious and jovial group that has ever dug in western Iran.

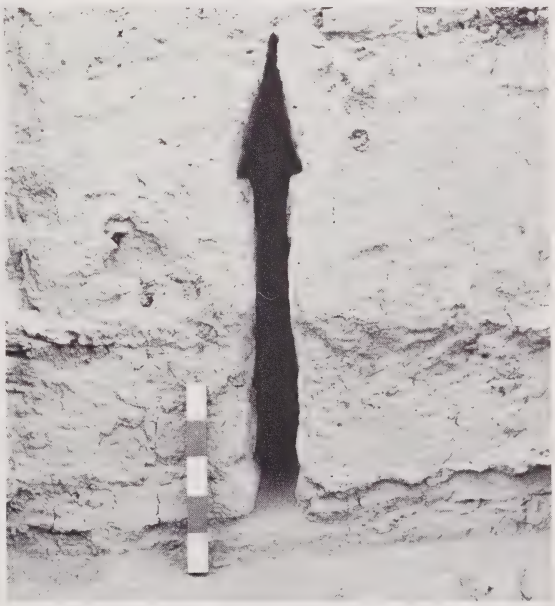
Very soon after excavations commenced, we realized that the small Median manor house that we had found in 1967 was a much larger building than had previously been realized. By the end of the season, a structure of quite monumental proportions had emerged. In 1967, we had defined part of a fortification wall with two projecting towers, a large columned hall, and a kitchen area. To this picture, we added this year another columned hall, of rather smaller dimensions, as well as an entirely new and previously unsuspected wing. It was this wing that proved to be the most spectacular of the many discoveries made this season.

Our new wing was located to the east of the kitchen areas found last season. Its northern wall was the continuation of the fortification wall, a small part of which had been found in 1967. This wall, which we now know to have been at least 135 metres long (somewhat longer than a regulation football field), was defended on its eastern end by yet another tower, similar to the two discovered in 1967. Not only was the length of the wall unexpected, but its fine state of preservation was a complete, if nonetheless delightful, surprise. For most of its length, the wall was preserved to a height of some three metres, and the mud plaster coating that had been applied to the brick face in antiquity was often so well preserved that it looked as if it had been put on the previous morning.

The wall itself was designed in a series of buttresses and recesses, each of which had a long, narrow slot running through the full width of the wall, from the outside to the inside. On the outside, these slots were shaped like an arrow, with two bricks laid lengthwise and sloping toward each other at the top. The purpose of these slots was a source of much discussion over the course of the summer. Suggestions ranged from the mundane idea of windows for lighting or ventilating the rooms behind them, to the dramatic theory that they were defensive installations through which arrows could be shot at an attacking enemy, or



Border between present-day Iran and Iraq, showing Godin Tepe on the Gamas Ab River in Zagros Mountains (Map—M. Hadaway)



Man-high arrow-slot in northern defensive wall

through which poles could be extended to push over scaling ladders when the fort was under attack. Whatever the answer to the original function of these slots, and it probably is a combination of the above suggestions, they added greatly to the imposing picture made by the fortification, perched some 25 metres above the plain.

If military considerations were originally part of the design of these "arrow slots," those considerations soon passed from the mind of the local ruler. Of greater concern to him was the more basic task of keeping the walls standing. Thus, when the upper parts of the wall collapsed, burying the lower part of the "arrow slots" and rendering them useless for defensive purposes, our local chief simply put a new coat of plaster on the wall, and did not bother to dig out to the bottom of his "arrow slots." The final indignity paid to these rather nice architectural novelties was their use as depositories for broken pottery and other trash that happened to be found lying around the rooms.

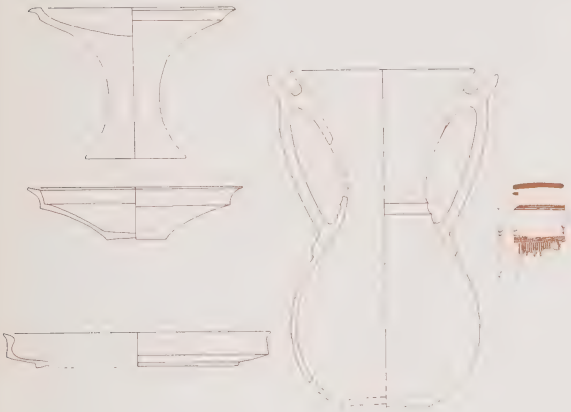
Although the fortification wall was preserved to a good height, the top had collapsed and had long been eroded away over the face of the mound. Our excavations at Godin gave no clues to how the complete façade must have appeared to a shepherd driving his sheep across the valley in the year 700 B.C. However, thanks to the reliefs of the Assyrian kings, those of Sargon as well as his successors and predecessors, we can establish with some certainty what our ancient shepherd must have seen. On the reliefs, the walls were capped with overhanging battlements topped with crenellations. These no doubt provided the defenders of these cities with an added advantage in fire power down the face of the wall. They were probably also provided with slits in the floor through which arrows could be directed against sappers who managed to make it up to the base of the fortification wall with a view to undermining it.

Behind the defensive wall at Godin were six long narrow store rooms, all of which were accessible from a corridor that lay to the south. Off another corridor, parallel to the first, were six more magazines, added on to the initial six at a later date. This expansion probably corresponded to the peaceful conditions that led to the disuse of the "arrow slots" in the defensive wall. The need for more storage area bears silent witness to the "good times" that must have prevailed in the area during this period.

Further indication of the peaceful conditions that seem to have followed the original building of the citadel fortress is present in the area between the magazine wing and the columned hall, south of the kitchen area discovered in 1967 Here, yet another addition was made to the building which is still later than those of the southern block of magazines. With this addition, all pretence of the building's defensive nature was given up. A series of rather poorly built and totally undefended rooms was added, as well as a staircase which led from the ground floor to the residential quarters, which were probably located on the second storey, much as in better village houses in Iran today. Unfortunately, the exact nature of the southern end of our Median manor house will never be known to us, for erosion has carried away this side of the complex.

Fortunately for the people who inhabited ancient Godin Tepe, but to the great disappointment of the modern archaeologist, the massive defences around the site served as sufficient deterrent to any who might have contemplated attack. Median Godin was never captured; eventually it was peacefully abandoned. The inhabitants swept their floors, collected all of their belongings, removed the wooden roof beams that were so valuable (wood is still the most expensive part of a village house) and departed. All that they left behind were some broken pieces of pottery and an occasional object small enough to escape their attention. The pottery, however, bears witness to the consummate skill of the potters as well as the high esthetic judgement of the master of the manor. Delicately shaped bowls and plates and a most beautiful high necked jar with a double handle were among the thousands of sherds that we found this summer. These, and a bone comb, are the finest objects discovered from the Median levels this season, and are tantalizing

Artist's reconstruction from sherds found in 1969 digging season: bowl on pedestal base, shallow bowl, plate and double-handled goblet. To the right, a carved bone comb



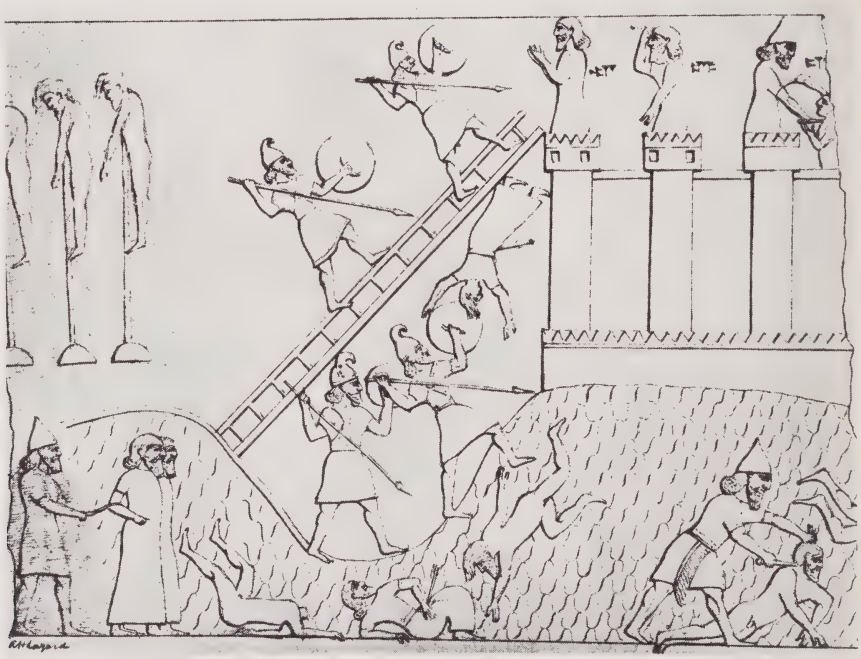
hints of what the full repertoire of Median art must have looked like.

The description of the Median levels at Godin Tepe would not be complete without some attempt to fit our finds into the larger historical picture. As far as we now know, Godin was probably founded some time late in the Assyrian period, perhaps even during the reign of Sargon. The fortifications initially connected with the building may have been designed to stave off the long arm of Assyria, or simply to protect the locals from the state of lawlessness described by Herodotus as being chronic to Media. Sometime still later during the Assyrian period, the Medes were united under a single king, and this, combined with a lessening of Assyrian control over the area, probably led to increased security for the Median inhabitants of Godin. This period corres-

The east tower on the northern defensive wall

ponds to the phase of the building when the "arrow slots" went out of use, and when the new magazines and other quarters were added. Eventually, with the fall of Assyria, and the establishment of a Median empire with a capital in nearby Hamadan, Godin was just not the place for a young Median prince to be. Thus, our chief packed up his family, moved to the capital and let his structure fall into disrepair.

Of course, reconstruction of the historical events is largely surmise. The answers to some of these questions are perhaps still sitting in one of the magazines which we have yet to clear, perhaps under the 30 metres of deposit at Hamadan. Nonetheless, the excavations at Godin are adding a new dimension to our understanding of Median history, and will, we hope, continue to do so in seasons to come.



Assyrian assault upon a city in the east. The fortifications are constructed on top of a mound, similar to that of Godin Tepe

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Louis D. Levine is a graduate of the University of Pennsylvania, where he received both his B.A. and Ph. D. degrees. In 1965, while on a Fulbright fellowship to Iran, he became involved with the ROM's Godin project, and he has served as Assistant Director of the project since that time. In May of this year, he joined the staff of the ROM, and is now Assistant Curator in the West Asian Department. In addition to field work at Godin, Dr. Levine has also dug at Hasanlu Tepe and Dinkha Tepe in Iran, and at Gezer and Munhatta in Israel. He is married and has two children.

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In Memoriam

Martin Lambert Wills, the vice-chairman of the Board of Trustees of the Royal Ontario Museum, died suddenly November 30, 1969 at his Hornings Mills, Ontario home. He is survived by his wife and two sons. Mr. Wills was 57. He was Vice-President and Assistant Treasurer of Canadian General Investments Ltd. An ardent collector of Canadiana, he became also an enthusiastic supporter of the Museum, actively interested in all its varied activities and well acquainted with many members of the staff. Mr. Wills will be deeply missed by his family, his business associates and friends, and by the Board and staff of the Museum.

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